

NANOSTRUCTURED CARBON MATERIALS HAVING
EXCELLENT CRYSTALLINITY AND LARGE SURFACE AREA
SUITABLE FOR FUEL CELL ELECTRODES AND METHOD
FOR SYNTHESIZING THE SAME

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ABSTRACT OF THE DISCLOSURE

A method for synthesizing nanostructured carbon materials having excellent crystallinity and large surface area using inexpensive metal salts and polymeric carbon precursors are disclosed. The
10 synthetic method comprises the formation of nanostructured carbon material –metal - inorganic oxide composite through catalytic graphitization of a polymeric carbon precursor – metal salt - inorganic oxide composite, removal of inorganic oxide using an etchant, and removal of metal through an acid treatment, wherein an inorganic
15 oxide material is added in the reaction mixture in order to increase the surface area of the nanostructured carbon material, and metal salt is used as a graphitization catalyst. The resultant nanostructured carbon materials possess the characteristics of excellent crystallinity and large surface area, where such characteristics are well suited for low
20 temperature fuel cell electrode applications.